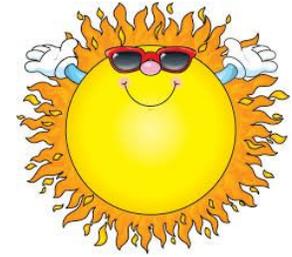


Summer Math Learning Packet

Students Entering Grade 3



The daily activities in this summer math packet will review math concepts and skills of the grade that has just been completed during the 2016 - 2017 school year. Just a few minutes each day spent “thinking and talking math” will help reinforce the math that has been learned and begin to bridge the foundation for extending to the concepts that will be developed next year. The goal is for you to have fun thinking and working collaboratively to communicate mathematical ideas. While you are working ask how the solution was found and why a particular strategy was chosen.

The math activities in this math packet address the new Massachusetts Curriculum Framework for Mathematics which incorporates the Common Core Standards within these four critical areas in grade 2:

- (1) Extending understanding of base-ten notation**
- (2) Building fluency with addition and subtraction**
- (3) Using standard units of measure**
- (4) Describing and analyzing shapes.**

The packet consists of a week by week ‘menu of math’, as well as directions for math games to be played at home. Literature, worksheets, APPs and websites are also recommended to explore mathematics in new ways. We encourage you to complete at least 15 math days each month. Keep track of your math in a journal.

Student Accountability

The intention is that your child spends at least 10 minutes a day, 4 to 5 times a week, practicing math. Your child should aim to complete at least 200 minutes of math practice over the course of the summer.

When your child has completed the math requirements, please sign and return this paper to the third grade teacher with his/her journal.

Student’s Name: _____

Parent/Guardian’s Signature: _____ Date: _____

Math Tools You'll Need:

- Notebook for math journal
- Pencil
- Chalk
- Dice
- Marshmallows
- Coins
- Regular deck of playing cards
- Toothpicks

DIRECTIONS:

Do your best to complete as many of these summer math activities as you can! Record your work in your math journal every day. In September, share your Math Journal with your third grade teacher.

Each journal entry should:

- Have the date of the entry
- Have a clear and complete answer
- Be neat and organized

Here is an example of a "great" journal entry:

July 5th:

Today I found 3 different ways to make \$1.00. First, I used 3-quarters, 2-dimes, and 1-nickel to make a total of \$1.00. Next, I had 5-dimes, and 2-quarters, and this also totaled \$1.00. Finally, I had 2-quarters, 2-dimes, and 6-nickels. These are the three different ways I combined coins to make \$1.00

Cool Math Books to Read:

Amanda Bean's Amazing Dream by Cindy Neuschwander

The Greedy Triangle by Marilyn Burns

Measuring Penny by Loreen Leedy

Games To Play:

(You will need a deck of cards)

1. Compare- Addition and Subtraction

Pass out all the cards to players. Each player flips over two cards. Add or subtract the two numbers showing. Players compare their values and the person with the higher value wins all four cards.

2. Close to 100

Deal 6 cards to each player. Use any 4 of your cards to make two 2-digit numbers. (Aces = 1; Jacks, Queens, & Kings = WILD cards, stand for any digit 0-9) Try to make a combination that when added is close to or exactly 100.

5 4 3 A 8 3

You combine 48 and 53 to make 101. Your score is 1 since the difference between 101 and 100 is 1. You make a recording sheet in your journal like this,

Round 1: $48 + 53 = 101$ Score 1

Put the cards you used in the discard pile. Keep the other two for the next round. Pick up four more cards and play 5 rounds. Add the score to each round. The lowest score after 5 rounds wins.

Other games to play: Checkers, Othello, Memory, Set, jigsaw puzzles, Parcheesi, Crazy Eights, Connect Four, Legos, K'Nex

Worksheets to Practice Math:

<http://www.gregtangmath.com/>

<http://www.commoncoresheets.com/>



Math for All Seasons by Greg Tang

Directions: Each week has five activities for you to complete. You may complete the activities in any order. Choose one activity to do each day, and then write about that activity in your math journal.

Week 1

1. Play **Hidden Picture Addition** on www.aplusmath.com
2. Ask an adult to teach you a card trick. Practice the trick and try it out on a friend. What math was involved?
3. Plant a seed. Will it grow to be about 12 inches or 12 feet? How do you know? Measure and record the height twice a week to keep track of how high it grows.
4. Play a strategy game **Othello** or **Checkers** Did your strategy work? Will you try a different strategy the next time you play?
5. $500 + 60 + 8$ is a number. Write it as a three-digit number. Write its name in words. Draw a picture to represent the number. Locate it on the number line.

Week 2

1. You have \$1.50 in your pocket. Make a list of 10 different combinations of coins you could have in your pocket.
2. Cut out a picture from a magazine or newspaper. Glue it to a piece of paper. Write a story problem to go along with the picture. Challenge a friend to solve it!
3. Find a flower with an odd number of petals. Do all flowers have the same number of petals?
4. Read **Measuring Penny** by Loreen Leedy. Find an animal real or stuffed to measure with inches and centimeters.
5. You won first place at a contest! You have two choices for the prize : You can take \$20 home with you today OR \$2 a day for the next 15 days. Which option earns more money? How much more?

Week 3

1. Add the ages of all the people who live in your house. What is the sum? Is it greater than or less than 100, by how much?
2. Keep track of the temperature everyday for the week. Draw a bar graph. Compare the difference in temperatures.
3. Using sidewalk chalk write as many number facts you know in one minute.
4. Use all the digits 5, 7, and 2 to create different 3-digit numbers. What is the greatest number? What is the smallest number? How do you know?
5. Find at least 5 different ways to make \$1.00 using nickels, dimes, and quarters.

Week 4

1. Use $<$, $=$, or $>$ to complete the number sentences below. Then try to write your own!

$$657 \underline{\quad} 457 + 100 + 100$$

$$923 + 10 \underline{\quad} 953 - 10 - 10 - 10$$

2. Read **Amanda Bean's Amazing Dream** by Cindy Neuschwander. Count all of the books in your house.
3. Play **Close to 100** (see directions). How does it help you to get better at addition?
4. How many times can you hop on your left foot in a minute? Your right foot? Compare the number of hops using the symbols $<$, $>$ or $=$. What is the difference?
5. Pia was having a party. She put 10 stickers in each party bag. She made 12 bags with ten stickers in each one. How many stickers total were in her 12

bags?

Week 5

1. 100 is the answer, what could the question possibly be? Challenge yourself to think of more questions.
2. Write down the years people who live with you were born. Put them in order from least to greatest.
3. Stand and jump as far as you can, measure using a yardstick or meterstick. Jump 3 times and compare your measurements?
4. How long will it be to your birthday in days? Use a calendar to keep track.
5. Find 20 coins in your house. What do they add up to? Is it more or less than \$3.00

Week 6

1. Write the numbers 729, 812, 478 in expanded form: (Ex.: $583 = 500 + 80 + 3$)
2. Read, ***Math for All Seasons*** by Greg Tang. Make up your own math riddle.
3. Compare and record some three-digit numbers using $>$, $<$ and $=$. (Ex.: $324 > 314$)
4. Play **Hidden Picture Subtraction** on www.aplusmath.com
5. Go on a shape hunt for quadrilaterals how many can you find? How are their attributes the same or different?

Week 7

1. $115 + 6 = 113 + \underline{\quad}$ Copy this problem in your journal and fill in the blank. Explain how you got the answer.
2. If you start playing a game at 8 a.m. and play for 1 and a half hour, what time is it when you're done? How do you know?
3. Read ***The Greedy Triangle*** by Marilyn Burns. Follow along using toothpicks to make the polygons.
4. Use $<$, $=$, or $>$ to complete the number sentences below. Then try to write your own!

$$347 + 30 \underline{\quad} 397 - 10 - 10$$

$$926 \underline{\quad} 726 + 100 + 10$$

5. Starting with 101, skip count by 100 until you get to 1,001. What pattern do you notice? Try different numbers to start with, does the pattern change?

Week 8

1. Use a grocery store flyer to plan a breakfast. List all the items you need and record the price of each item. How much will breakfast cost?
2. Do a Sudoku puzzle in the newspaper.
3. How many ten-dollar bills equal a hundred-dollar bill? Jen had 20 ten-dollar bills. How many hundred-dollar bills can she trade them for?
4. Play **Guess My Rule** on www.mathplayground.com Did you learn new math vocabulary?
5. Estimate how long it will take you to do 100 jumping jacks. Did it take more or less than 5 minutes? Record your time and compare with a friend.

Week 9

1. Find a bar graph in the newspaper and talk to an adult about what the numbers mean.
2. Explore one of the recommended websites. What math did you learn?
3. Play **Compare** (see directions). How does this help you to practice your facts?
4. Using chalk, draw some boxes on the sidewalk. Fill the boxes with numbers counted by 2s. Create a new set of boxes four numbers that show a pattern, such as counting by 5s, counting by 10s, decreasing by 1s, or decreasing by 2s.
5. Record what time you get up today, what time you eat breakfast, lunch and dinner, and what time you go to bed.

YOU DID IT! Please bring your journal to your third grade teacher on the first day of school!

Educational and Fun APPS and Websites to Practice Math

Please take some time to do these activities and record your choices on the “Create Your Own Summer Math Calendar!” sheet provided.

Websites

Here are websites that you can access at the **Cambridge Public Library** if you do not have a computer at home

<http://www.funbrain.com/>

<http://www.aplusmath.com/>

<http://pbskids.org/cyberchase/math-games/>

<http://illuminations.nctm.org/ActivitySearch.aspx>

<http://www.gregtangmath.com/>

<http://www.coolmath4kids.com/>

<http://bedtimemath.org>

[http://www.playkidsgames.com./](http://www.playkidsgames.com/)

[http://www.coolmath.com./](http://www.coolmath.com/)

<http://www.figurethis.org./index.html>

<http://resources.oswego.org/games/mathmagician/cathymath.html>

APPS to Practice Math!

Try handing your smartphone or iPad to your child while you are driving or watching TV and let them practice their math on a free or inexpensive app.

APPS for 3 - 5

- Everyday Mathematics, Beat the Computer, Multiplication
- Everyday Mathematics, Divisibility Dash
- Everyday Mathematics, Equivalent Fractions
- Juicy Math – Multiplication and Division
- Motion Math HD
- Pizza Fractions: Basic Conversions
- Pizza Fractions: Comparing Simple Fractions
- Times Tables
- Tony’s Fraction’s Pizza Shop
- Pearl Diver 3 - 8

APPS for all Grades

- Fast Math
- Fast Math Challenge HD
- Fraction App by Tap to Learn
- Kakooma
- Math Matrix HD
- Quick Math Game
- PopMath
- iEstimation
- Pick-a-Path
- Sumdog
- Conundra Math
- Cloud Math

Create Your Own Summer Math Calendar! Grade _____

If the activities suggested don't seem to "fit your child" or you have your own websites/literature/math practice you would like to do you can create your own math calendar. Feel free to substitute your own activities that better suit your needs or learning style. All we ask is that you document your created activities below. Remember: the goal is to complete 15 activities each month. You can certainly use this sheet to record more!

#	<u>Date Completed</u>	<u>Description of Math Activity</u>
1		
2		
3		
4		
5		
6		
7		
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10		
11		
12		
13		
14		
15		